ABSTRACT

METHOD VALIDATION OF FLAME ATOMIC ABSORPTION SPECTROPHOTOMETRY (FAAS) FOR DETERMINATION OF IRON (Fe) IN MULTIVITAMIN MINERAL CAPSULE DOSAGE FORM

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Flame Atomic Absorption Spectrophotometry (FAAS) has been developed for determination of iron (Fe) in multivitamin mineral capsule dosage form. The method of sample preparation used combination of dry ashing (450 ± 20˚C for 2 hours or until it becomes ashes) and wet ashing with a mixture H_2O_2 30%, HCl 6N, and HNO_3 65%. The method validation comprises of the study of selectivity, linearity, accuracy, and precision. The proposed method was linear over the concentration ranges of 2-8 µg/mL. The regression was y=0,0435x+0,0237 with the correlation coefficient (r) obtained for those regression is 0,9996 and the relative process standard deviation value (Vxo) is 1,39%. The accuracy of Fe was 100,12%. The precision coefficients of variation in the range 0,99% for repeatability and 0,83% for intermediate precision. The method was successfully applied for determination of iron (Fe) in multivitamin mineral capsule dosage form.

Keywords : method validation, FAAS, iron, multivitamin mineral capsule.